EXECUTIVE SUMMARY

19 August 2015

(U) UH-72 AS A PRIMARY TRAINER. (U) Based on a quick assessment of mission suitability and costs, a review of the decision to employ the UH-72 (LUH) as the Army's primary trainer may be warranted. The primary basis for Aviation Restructure Initiative (ARI) is to reduce costs for the total Army Aviation program. Suitable and less expensive primary flight trainers are available. The funds used to buy additional UH-72s and pay for the high UH-72 operating costs over the program life of this training aircraft could be used to buy additional AH-64s to support a larger attack recon capability. One alternative compared 3.0($M) per airframe to 5.5($M) for the UH-72. The difference in operating costs per hour for the alternative were .65($K) compared to 2.1($K). Most qualitative remarks opined that the UH-72 was too much aircraft for the mission – that the primary trainer should be simple enough for the Instructor Pilot to focus on basic manipulation of the flight controls. The UH-72 is an expensive primary trainer to procure and operate. This brief assessment of mission suitability and costs indicates a review of the decision to employ the UH-72 as the Army's primary trainer is prudent.

Considerations:

- Increases in the cost to train a new pilot may impact the number of training seats each year. Less for the Army National Guard (ARNG)?

- With full ARI there will be a cost to retrain AH-64 pilots into another airframe (increase of UH-60's in the ARNG) and a possible back log to do so.

- Can resources saved by utilizing a cheaper training aircraft be used for ARI?

- Why is the US Army not using a cheaper training aircraft before they put pilots in mission aircraft like other military services?

INFORMATION PAPER

19 August 2015

SUBJECT: Effectiveness of the UH-72 Light Utility Helicopter (LUH) as a Training Aircraft

1. Purpose: Evaluate the UH-72 as the primary training helicopter for the US Army.

2. Summary: Based on a quick assessment of mission suitability and costs, a review of the decision to employ the UH-72 as the Army's primary trainer may be warranted. Suitable and less expensive primary flight trainers are available. The funds used to buy additional UH-72s and pay for the high UH-72 operating costs over the program life of this training aircraft could be used to buy additional AH-64s to support a larger attack recon capability.

3. Background: The UH-72A Lakota was initially acquired by the Army in 2006, as a LUH for Army National Guard (ARNG) domestic operations (DOMOPs) and Active Component (AC) generating force tasks. As part of the Aviation Restructure Initiative (ARI), Headquarters Department of the Army (HQDA) plans to replace its Fort Rucker, AL training fleet of more than 200 TH-67s and OH-58Cs with 187 UH-72s (77 active Army transfers and 110 new procurements). The UH-72 is a militarized version of the Airbus EC145 multi-mission helicopter, which is used worldwide for law enforcement, emergency medical transportation, search and rescue, offshore and utility operations, and corporate transportation.

4. Mission Suitability:

a. In a survey of 16 UH-72 Army Instructor Pilots (IPs), 75% of respondents believed that the UH-72 would make a "Fair" or "Poor" primary trainer, 25% believed that the UH-72 would make a "Good" or "Excellent" primary trainer, and 44% believed there was a moderate safety risk with the aircraft utilized as a primary trainer.

b. Most qualitative remarks opined that the UH-72 was too much aircraft for the mission – that the primary trainer should be simple enough for the IP to focus on basic manipulation of the flight controls. Noted on multiple surveys was the inability of the aircraft to do touchdown autorotations (a task that will never be encountered in a dual-engine helicopter like the UH-72). Also, several respondents believed that the transition from a basic training aircraft to a glass cockpit would not be difficult for the current generation of new pilots, and can be left for mission-aircraft qualifications.

c. The Airbus website does not identify the EC-145 or UH-72 as a training helicopter. In a similar manner, a 3 October 2013 Capabilities Development and Integration Directorate (CDID), a Division at Fort Rucker briefing reports that, "The UH-72A (EC-145) is not currently used as a primary training aircraft."[1] These observations

[1] Briefing: IERW UH-72A Transition; COL Ramsey Bentley; USAACE CDID; 3 Oct 13

lead to the conclusion that the EC-145/UH-72A is therefore inherently suboptimal in the primary training role.

5. Acquisition and Program Costs: In Fiscal Year (FY) 14, the per unit cost of a UH-72A helicopter was $8.56 million (flyaway cost) of which the airframe makes up $5.48 million.[2] The total procurement cost of the UH-72A LUH program was $1.81 billion for the original procurement objective of 315 aircraft.[3]

6. Cost Comparisons:

a. The UH-72 program cost is best evaluated in the context of possible alternatives, such as the Bell Model 407GX, a simpler, single-engine helicopter that evolved from the OH-58/TH-67 design. Flying Magazine reported in 2011 that the Bell 407GX (equipped with a Garmin-1000 integrated glass cockpit) cost $2.8M per copy. This is increased to $3.0M to account for a total inflation of 7% over the past three years, but is not an official Bell price quote.[4] For comparison purposes, it is assumed that this is not the unit fly-away cost, but rather the airframe cost.

	Per unit Cost ($M)	Purchase Required	Purchase Cost ($M)
UH-72	5.5	110 Aircraft	605
Bell 407GX	3.0	187 Aircraft (total Rucker Requirement)	561

b. In a February 2013 sales brochure, Bell advertised their 407GX direct operating costs at $434 per flight hour.[5] This is increased by 1% to account for inflation, and *another 49% to account for indirect costs and typical Army management practices.*

	Per hour Cost ($K)	Flight Hours Required	One Student Aircraft Cost ($K)	Annual Cost of 1000 Student Throughput
UH-72	2.1 [7]	83.6	176*	$ 176 M
Bell 407GX	0.65	83.6	54	$ 54 M

**This is cheaper than the $198K cited in the 3 Oct 13 CDID report, but does not include simulation costs.*

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[2] UH-72 Acquisition and Program Costs are extracted from a 2014 issue of Aerospace and Defense Intelligence Report, dated 6 June 2014, and written by Joakim Kasper Oestergaard http://www.bga-aeroweb.com/Defense/UH-72-Lakota-LUH.html.

[3] Ibid

[4] Bell 407 costs are estimates, using 2011 figures reported in Flying Magazine: http://www.flyingmag.com/aircraft/helicopters/bell-407gx.

[5] 2013 Bell Sales Brochure: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0CC4QFjACahUKEwj54bXT0djGAhUFVz4KHaEfBhU&url=http%3A%2F%2Fwww.bellhelicopter.com%2FMungoBlobs%2F267%2F150%2F206L4%2520Spec%2520Book%252022013-Web.pdf&ei=IfajVbnNMYWu-QGhv5ioAQ&usg=AFQjCNEndzFHaVBvXINOFJgOdTfypxjNLQ

c. Thus, a preliminary review shows the Bell Model 407GX is a less expensive alternative to the UH-72 for the training mission at Fort Rucker.

7. Conclusion: The primary basis for ARI is to reduce costs for the total Army Aviation program. The UH-72 is an expensive primary trainer to procure and operate. This brief assessment of mission suitability and costs indicates a review of the decision to employ the UH-72 as the Army's primary trainer is prudent.